



## COVER SHEET

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# **CLINICAL CODING INTERNATIONALLY: A COMPARISON OF THE CODING WORKFORCE IN AUSTRALIA, AMERICA, CANADA AND ENGLAND**

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## **Introduction**

Recently, researchers in Australia, America, England and Canada have conducted national surveys of clinical coders in their respective countries. In Australia in 2002, the National Centre for Classification in Health (NCCH) in collaboration with the Health Information Management Association of Australia and the Clinical Coders' Society of Australia conducted the National Clinical Coder Workforce survey, a study of clinical coders and coding managers<sup>1</sup>. In America in 2002, the American Health Information Management Association (AHIMA) commissioned an independent national workforce research study to the Centre for Health Workforce Studies (CHWS), State University of New York at Albany to provide a picture of health information management roles today and forecast through 2010<sup>2</sup>. In England in 2003, the National Health Service Information Authority (NHSIA) conducted a national clinical coder survey, along with a survey of coding managers, in a similar format to that completed by Australia<sup>3</sup>. In Canada, in 2002, a study was conducted by the Canadian Health Record Association (CHRA) (currently known as the Canadian Health Information Management Association (CHIMA)) and Thiinc iMi, which provided information regarding the various roles health record professionals have in the healthcare sector, the qualifications of health record professionals and their salaries<sup>4</sup>.

While these surveys have been conducted independently, they have addressed similar issues in terms of coders' salaries, educational backgrounds, roles and responsibilities, resources, experience, and continuing education needs. While several papers/reports have been generated from the individual research at a national level, there has been no systematic comparison of the coder workforce at an international level to date. This paper will describe the findings of each of the national surveys, and seeks to identify similarities and differences in important aspects of the coder workforce at an international level.

## **Background**

### **The Australian Clinical Coder Workforce**

The National Centre for Classification in Health, in collaboration with the HIMAA and the Clinical Coders' Society of Australia, developed a follow up survey to a 1994-5 nationwide survey of clinical coders with the aim of quantifying the changes that have occurred in the coder workforce over the last eight years. There were five broad issues addressed in the survey:

- Who codes?
- What do coders do?
- Where is coding done?
- How is coding done?
- How are coders supported?

A total of 1277 surveys were sent to eligible facilities in July 2002. Of the 1277 facilities contacted, a total of 424 managers responded to the survey, representing a 33.2% response rate. The number of coders to respond to the survey was 1031.

Around 90% of coders worked in a hospital facility and 65% of coders indicated that they worked in the public sector. Over half of the respondents stated that their position titles were clinical coders, followed by 31%, who identified their positions as Health Information Managers.

### **American Health Information Management Association Members Survey**

In the United States in 2002, the American Health Information Management Association (AHIMA) commissioned an independent national workforce research study conducted by the Center for Health Workforce Studies (CHWS), State University of New York at Albany. The AHIMA member survey aimed to gather information about the membership of AHIMA and about the HIM workforce. A summary of findings specific to clinical coders was prepared by MacKenzie<sup>5</sup> in 2003, and the results reported in this paper reflect these findings, in order to allow comparability to the other international surveys of clinical coder workforces.

Over 10,000 surveys were sent to a random sample of AHIMA members with responses received from 5,333 members, representing a 55% response rate, the highest response rate of any of the four countries. Almost 30% of respondents identified themselves as being coders or clinical data specialists.

Over 60% of coders who responded worked in hospital inpatient settings, 18% in hospital outpatient facilities, and 7% in clinician's offices, suggesting that respondents to the AHIMA survey were more varied in terms of their places of employment compared to Australian respondents, the majority of whom worked in hospital facilities.

### **The English National Clinical Coder Workforce**

The English National Clinical Coder Survey was developed with the aim of generating baseline information on the clinical coding workforce within the English National Health Service (NHS), highlighting their employment patterns and continuing education needs.

A total of 307 NHS Trusts were asked to participate in the survey. 106 Trusts returned managers' surveys representing a response rate of 34.5%. A total of 737 coders responded to the survey, with 9% of responses received from Specialist Trusts, 21% from Acute Teaching Trusts, 56% from Acute Trusts, 8% from Mental Health Trusts, 1% from Community Trusts, and 4% from Primary Care Trusts. This represented similar numbers of coders working in hospital facilities to the Australian survey.

### **The Canadian Survey of Health Record Professionals**

In an effort to provide an illustration of the current Health Record professional landscape to further guide the Canadian Health Information Management Association (CHIMA) in generating a national strategy for the profession, CHIMA and THiiNC Information Management Incorporated (THiiNC iMi) developed *Taking Stock*, a national survey of Health Record Professionals. Specifically, the survey was designed to:

- Develop a snapshot of the current health record environment across the country;
- Quantify national health records human resource issues;
- Identify key strategic priorities for the health record community;
- Provide an opportunity for CHIMA and THiiNC iMi to collaborate, and
- Develop publications to inform and influence the debate on current issues in the health record environment.

The survey was designed for all institutions and agencies that employ Health Record Professionals. It was divided into six sections; survey respondents were asked to complete questions on the following topics:

- Demographics;

- Supply and demand;
- Productivity;
- The Electronic Health Record (EHR);
- Data quality, and
- Professional Development.

Of the 800 surveys that were mailed, 157 were completed and returned. This was a 19.6% response rate, representing the lowest response rate of all four countries. Almost 90% of surveys were received from hospitals and over 75% of survey respondents were employed in a rural setting.

## **What Is A Coder?**

### **Australian Clinical Coders**

In Australia, clinical coders are responsible for allocating ICD-10-AM codes to diagnoses and procedures as part of their work, and the process of coding refers to the tasks of allocating ICD-10-AM codes using books or an encoder, data entry or indexing of codes, checking of coding edit reports, updating coding books, quality assurance activities relating to coding, participating in meetings to discuss coding issues, or any other activity related specifically to coding.

Coders in Australia generally have one of three professional backgrounds. Some coders have qualifications in Health Information Management from one of four universities in Australia which offer this program. Each undergraduate program offers a significant component of clinical coding and related subjects (medical terminology, medical science, anatomy and physiology) as part of the core HIM curriculum. Graduate HIM coders often participate in other activities relating to the management and administration of the medical record or health information service within their hospital of employment, although they may also choose to code exclusively.

The HIMAA also offers educational courses for clinical coders. Both medical terminology and various skill levels of clinical coding courses (introductory, intermediate, and advanced) are offered by the Association through its distance education program and this training avenue provides a significant source of education for practicing coders. There is no pre-requisite knowledge or previous educational attainment required to enrol in an HIMAA medical terminology distance education program although it is necessary to have completed the medical terminology component or demonstrate skills in this subject before the coding subject is undertaken.

Other coders may not have received formal education in coding, but have been taught to code 'on the job' through either a structured educational program offered by their hospital or hospital group or informally one-on-one with another coder. Coders without some form of formal education in coding are becoming less common in Australia.

### **American Coders/Coding Specialists**

According to the AHIMA Certified Coding Associate (CCA) outline, used as the basis for the development of the CCA examination, US coders require competency in the following activities:

- coding with ICD-9-CM and CPT/HCPCS
- conduct of coding validation and quality studies
- abstracting information for coding from health record and other pertinent data sources
- qualitative assessments of source documentation
- adherence to facility's health information services regulatory requirements
- validation of reimbursement system code assignments
- collection of data for severity of illness assessments
- assistance in interpretation and use of coded data for strategic planning and reporting.

In the US, the AHIMA offers coding certificates in the following categories:

CCA (Certified Coding Associate) – entry level  
CCS (Certified Coding Specialist) – intermediate/advanced level  
CCS-P (Certified Coding Specialist – Physician office) – intermediate/advanced level

Eligibility to sit for the AHIMA Coding Certificates is based on demonstrated knowledge and experience. Formal coding education is not required, but is recommended for novice coders. The AHIMA offers a model coding curriculum approval program for certificate programs, with a formal approval process to assure that programs meet the model curriculum criteria. Healthcare organizations in the US indicate that an AHIMA coding credential is either desirable or required in some cases, for employment.

### **English Clinical Coders**

In England, clinical coders undertake abstraction, analysis and translation of complex clinical data into codes following the rules and conventions of ICD-10 for diagnoses and OPCS-4 for procedures using coding manuals or encoders. The resultant codes are input into hospital computer systems.

For employment as a clinical coder in England, most hospitals require General Certificates of Secondary Education (GCSEs) and a good standard of English language; medical terminology experience is desirable but not essential. In 1999 the National Clinical Coding Qualification (UK) was introduced, with the recommendation that all coders should pass the exam. Since the National Clinical Classifications Service introduced its training service in 2002, there has been an increased uptake in the number of new coders who have had formal foundation course training. Continued professional development in clinical coding is through attendance at meetings and workshops.

### **Canadian Health Record Technicians/Professionals**

In Canada, coders are responsible for allocating ICD-10-CA/CCI codes to diagnoses and procedures using a Folio software product. The Folio product is a computerized program which eliminates the need for coding books. The coders also check reports that are returned, either online or in paper format, from the Canadian Institute of Health Information (CIHI). They are responsible for quality assurance activities related to coding, participating in meetings to discuss coding issues and any other activities related to coding.

A coder can gain their education from a community college, a university program or from a program offered by the Canadian Healthcare Association. All programs are reviewed and approved by CHIMA. Once a potential coder has graduated from one of these approved programs, they are qualified to write the certification exam set by CHIMA. A “laddering program” exists which a health information management professional, such as a health record technician or health record administrator, can enter the third year of a four year program and when the candidate passes, receive a bachelors’ degree in health information management. Today, Canada has only one category of HIM graduate – a health information management professional. The previous health record technician and health record administrators still exist but these practitioners are encouraged to upgrade their skills.

### **Summary of Hospital Discharges**

In order to provide an illustration of the challenges faced by coders in hospital facilities in each respective country, a summary of the number of hospital discharges is provided:

- Australian hospitals recorded almost 6.4 million discharges in the 2001/2002 financial year<sup>6</sup>.
- Hospitals in the USA registered approximately 32.7 million discharges in 2001<sup>7</sup>.
- Hospitals in England recorded around 12.7 million finished consultant episodes in the 2002/2003 financial year<sup>8</sup>.
- Canadian hospitals reported over 2.3 million discharges in 2002<sup>9</sup>.

Clinical coders are responsible for assigning disease and procedure codes to represent the morbidity experiences of patients for each of these discharges.

## **Coder Workforce**

### **Employment Status**

One-third of Australian coders worked full-time, nearly 30% worked part-time (with fixed working hours), almost 10% worked casually (variable working hours), and the remaining 30% had other work to do besides coding.

Half of the English respondents were employed on a full time basis with no additional work other than clinical coding, and 46% were employed part time with no additional work other than coding.

In the US, 10% of coders are employed part time, 87% on a full time basis and 3% are paid a per diem rate.<sup>3</sup>

American and English coders had different employment patterns to Australian coders with considerably higher percentages of coders employed solely to code, either on a full-time or part-time basis. Data was not available on employment status for Canadian coders.

### **Educational Background**

Approximately 36% of Australian coders indicated that they had attained a Bachelor's degree in health information management/medical record administration (HIM/MRA). The HIMAA distance education course was the third most common (28.7%) method that respondents used to learn to code. A significant number of coders (10%) said they had no formal coding education beyond what they learned on-the-job.

Almost 60% of American coders had an Associate Degree, 22% held a Bachelor's degree, 18% had no further education beyond high school and 1% attained postgraduate qualifications. Nearly 60% of AHIMA credentialed coders held an RHIT (Registered Health Information Technician), a further 14% held an RHIT with mastery level coding credentials (such as a CCS or CCS-P), 16% held an RHIA (Registered Health Information Administrator), and 9% held a CCS/CCS-P only.

Nearly 14% of English coders indicating that they had not undertaken any formal training in coding, and 41% indicating that they had not undertaken any formal refresher training in coding.

Over 20% of Canadian coders had a certificate or technical diploma, while less than 5% of employees had baccalaureate or master's degrees. Among Canadian survey respondents, the Health Record Technician designation (49% of employees) was twice as common as a Health Record Administrator/Health Record Professional (HRP) designation (22% of employees).

Almost twice as many coders in America indicated that they had no further education beyond high school compared to Australian coders. However, around four out of five American coders held tertiary qualifications compared to just over half of the Australian coders. Slightly more English coders had no formal coding training compared to Australia. Considerably fewer coders had tertiary qualifications in Canada than in Australia or America. Some of these findings may be due to timing, with most countries now engaged in offering formal education for clinical coders which was not available in the past. This is likely due to the wider use of coded health data for a variety of purposes, including reimbursement, research and health care management purposes. There is greater emphasis on ensuring that coders are competent and that the codes accurately reflect health care experiences of patients.

## Salary and Industrial Conditions

Salaries from each country were converted into a common currency (\$USD) (using Purchasing Power Parity Conversion Factors<sup>10</sup>) to adjust for cost of living differences (Note: This common currency has been used for all figures in this section).

The average annual salary of FTE Australian coders overall was in the range \$25 000–\$28 570. Salaries for Australian coders increased slightly by years of experience with coders with less than one year of experience earning around \$23 214, rising to around \$26 785 for coders with more than one year of experience. Furthermore, Australian coders who reported that they held tertiary qualifications and HIM/MRA degrees had annual salaries around \$28 571 to \$32 142, compared with coders who had completed non-tertiary HIMAA education courses who generally earned in the range of \$21 428 to \$24 999.

The average annual salary of American clinical coders was approximately \$37 000, with coders with an RHIT and mastery level coding credentials attaining the highest average annual salary of over \$40 000 USD.

The average salary for a full time English clinical coder was in the middle two ranges \$16 867-\$19 577 (29% of coders) and \$19 578-\$23 750 (28% of coders) per annum which equates to the English A&C grade 3 and 4 respectively. There was an increase in the salaries of English coders as coders become more experienced, with clinical coder with less than one year's coding experience earning an average of \$1428 per annum less than clinical coders who had been coding for 1-2 years, increasing by around \$4285 per annum for coders with more than five years experience.

According to Canadian survey responses, the average annual salary of Health Record Administrators (HRA's) was approximately \$32076 per annum and the average annual salary of Health Record Technicians (HRT's) was approximately \$26153 per annum.

Comparing average salaries, American coders earn approximately 30% more than Canadian and Australian coders, and approximately twice as much as English coders. Canadian and Australian coders earn similar salaries, which are around 30% more than English coders (See Figure 1). In all four countries, higher credentials and/or more years of experience translate into higher salaries for coders. (America \$37000, Canada \$28846, Australia \$26785, England \$19571)

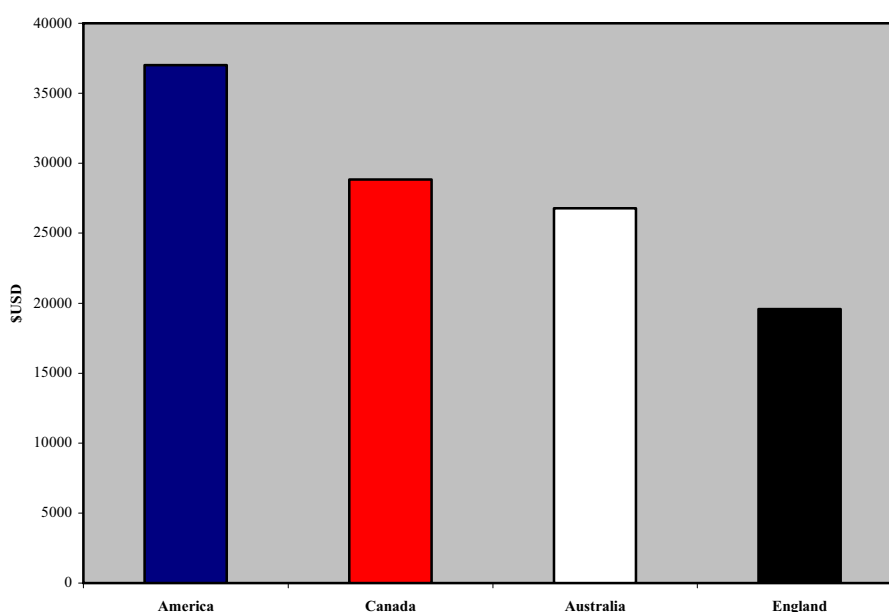


Figure 1: Average salaries of coders internationally (in \$USD)

## **Coding Vacancies**

Anecdotally, coders report that they are being asked to do more work but that there are insufficient coders to meet demand. This was explored by looking at the number of reported vacancies for coders and the number of new coder positions being created as reported in each survey.

Looking at hospitals as the location for coder employment, around 10% of Australian facilities indicated that there were vacant positions for coders, with a total of 38.1 FTE coder positions available. This is an average of almost one vacant position within each of these sites. Approximately 96% of American coders reported that there were some or many jobs available in their hospitals. In addition to hospital vacancies, in the US, there are also a significant number of vacancies in rehabilitation facilities, home healthcare agencies, government agencies, managed care organisations and insurance companies for health information management personnel trained in coding. The national vacancy rate for clinical coding and billing personnel is over 8%, with 40% of hospitals reporting difficulty recruiting coding and billing staff, according to a 2002 American Hospital Association study<sup>11</sup>. 27% of managers in England indicated that there were vacant positions for coders, with a total of 46 coder positions available. Seventeen per cent of Canadian survey respondents reported a vacancy in the coding/abstracting area. The average vacancy was 1 individual per site. The only other vacancies of note were in the decision support/data analysis and supervision/management roles; 4.3% of respondents reported vacancies in each of these positions. The average vacancy for these positions was 1.2 and 1.0 per site respectively.

A similar number of vacancies were reported in the Australian, English and Canadian surveys, with around 40 vacant coder positions in total available, however when considering the number of discharges that coders are required to manage, it is obvious that the coder shortage in England is the most acute, followed by Australia and Canada. While the actual number of coder positions available in America was not provided, it can be assumed that with approximately 20% of institutions reporting vacancies, unfilled coder positions in America vastly outnumber those in the other three countries.

## **Coder Responsibilities**

### **Coder Tasks**

Two-thirds of Australian clinical coders, nearly 90% of Australian Health Information Managers and 95% of 'other' coders indicated that they performed duties beyond the defined role of a coder. The most common task overall that Australian coders performed besides abstracting information from records and allocating codes, was quality assessment, with two-thirds of coders performing QA.

Only 4% of English coders indicated that they had other work to do besides clinical coding, and these tasks were specified as follows: data entry work other than coding, health record duties, ward clerk duties, and reception duties.

In addition, coders in both countries were asked if they were involved in other areas which impacted on their clinical coding role. Over 28% of English coders stated that they regularly liaised with the IT department (compared to 40% of Australian coders), 9% of English coders were involved in organising or conducting continuing education activities (compared to 23% of Australian coders), 6% of English coders undertook analysis of hospital information (compared to 23% of Australian coders), and 5% of English coders were involved in software testing (compared to 21% of Australian coders). In the US, in addition to abstracting and coding from each medical record, about 30% of coders are also required to analyse and abstract information from the hospital record for other database systems, and regularly discuss coding issues with clinical staff.



It appears that coders in Australia are required to perform considerably more varied tasks beyond clinical coding compared with English and American coders. Data was not available on non-coding tasks for Canadian coders.

### **Coding Throughput**

Coding throughput is a measure of the average number of records that a coder is required to code in a defined time period – per day or per month, for example. It is recognised that there are a number of factors that influence coders' ability to meet specified targets, including a hospital's casemix, severity levels of the patient's diagnoses and procedures and the subsequent complexity of the medical record, plus the number and type of 'non coding' tasks that coders are required to perform. Recognising that it is virtually impossible to create a standard measure of coding throughput, this is nonetheless an area of significant interest to managers of coding services. We report here the information submitted by clinical coders in response to the national surveys, without any attempt to create benchmarks of coding performance, either nationally or internationally.

Forty-four percent of Australian coders indicated that they were required to meet a coding throughput target. Note that, in this country, only inpatient and day surgery discharges are currently coded – outpatient and Emergency Room attendances are not coded. The average daily throughput requirement was specified as 28 records per standard working day (3–4 records per hour). However, the coding throughput mode was slightly higher at 30–39 records per day (4–5 records per hour).

Nearly 83% of English coders indicated that they had clinical coding targets to meet, with 55% of these coders stating that they had to have a 95-100% completion rate of coding episodes by the end of the month.

When asked about coding productivity, over 80% of Canadian respondents stated that they did not have standards for coding productivity. For those inpatient facilities that did have standards for coding productivity, the average coding target was 23.5 records per day for inpatient records. Other informal standards are 80 records per day for Emergency coding and 50 records a day for Same Day Surgery coding. At 23.5 records per day, the throughput requirement is slightly lower than the Australian throughput requirements of between 30 and 40 records per day.

Dunn and Mainord (2001)<sup>12</sup> reported average coding productivity requirements in the US:

- 30 minutes per record for inpatient records
- 8.5 minutes per record for observation, ambulatory surgery, and minor procedure records
- 3.3 minutes per record for outpatient tests
- 4.2 minutes per record for Emergency Room visits.

Assuming an average working day of 8 hours, this is an average of 16 inpatient records per day for US coders, less than the requirements reported by Australian and Canadian coders. The impact of coding accuracy and regulatory compliance related to healthcare reimbursement contributes to this time factor in the US.

English coders were almost twice as likely as Australian coders and four times as likely as Canadian coders to have coding throughput requirements.

### **Coding Quality**

Because of the variety of uses to which coded morbidity data is put, including providing support for clinical and management decision-making, health services and public health research and funding initiatives, there is also considerable interest in the quality of the coding upon which such decisions are based. Both Australian and English coders considered a list of factors that may have an impact

on the accuracy, completeness, and timeliness of coding, and indicated the severity of each factor on a scale from no impact to an enormous impact.

For Australian coders, the factor considered most likely to affect coding quality was incomplete medical record content, with 77% of coders stating that this factor had an impact. This was closely followed by principal diagnosis not being identified (74%), complications /comorbidities not being identified (71%), illegible medical record entries (69%), and pressure to maintain coding throughput (45%).

The factor considered most likely to affect coding quality according to English coders was incomplete medical record content, with 87% of coders stating this factor had an impact. This was closely followed by illegible medical record content (85%), and principal diagnosis not being identified (83%), and complications /comorbidities not being identified (78%).

Canadian respondents were asked to rank coding quality challenges in their department. Chart documentation/completion issues were cited as the biggest challenge, followed by technology issues, coding quality, EHR, recruitment and staff retention. Since the Canadian survey was done, there have been two data quality studies in various provinces that have reviewed coding and developed recommendations. These studies verified the documentation/completion issues but also showed wide variances between small hospitals and large and/or teaching hospitals.

In a study in 1994<sup>13</sup>, which surveyed over 300 coding professionals in the US, only 65% of medical records contained a physician's discharge note at the time of coding. The discharge summary, which provides historical information, describes the chief complaint and summarises the course of treatment, final diagnoses and procedures, and is a vital tool in assisting the coder, was only found in 20% of records of discharged patients at the time of coding. The operative report was found in 50% of records at the time of coding. Since this study, dictated reports and some electronic health record applications and other online reports are now available for viewing by coders. However, most coders still agree that incomplete medical records remain an impediment to the coding process. The emphasis on quick turn-around for billing (48-72 hours) still leaves coders with incomplete medical record documentation on which to base accurate and complete code assignment.

In all four countries, documentation issues were the primary concern for coding quality. This is despite years of discussions and active promotion by Health Information Managers of the necessity for high quality documentation on which to base abstracting and coding.

Around two-thirds of Australian coders stated that they regularly undertook quality assurance activities to assess the quality of coding output. Over 60% of Canadian respondents reported that they participated in staff meetings to discuss data quality issues 'irregularly or never', and over half of the respondents indicated that they never perform coding audits. In the US, healthcare organizations conduct routine coding compliance audits performed internally by supervisory coding staff in most hospitals, with quarterly or bi-annual coding compliance audits conducted through external contracts with compliance audit firms, as a safety check against potential fraud and abuse charges. In general, coding accuracy rates across all hospitals for inpatient, outpatient and Emergency Department coding are considered appropriate when within the range of 95-100% accuracy on periodic sampling reviews.

### **Resources and Support for Coders**

Because of the variety of uses for coded data noted earlier, there has been increasing emphasis over recent years in the provision of resources and support for clinical coders to assist them with producing high quality coded data.

## Access to Resources

The three organisations involved in the Australian coder survey – the National Centre for Classification in Health, the Health Information Management Association of Australia and the Clinical Coders' Society of Australia - each provide support to the clinical coder profession. The NCCH is an Australian expert centre in health classification theory and coding systems. Funded primarily by the Commonwealth Department of Health and Ageing, the Australian Institute of Health and Welfare (AIHW) and the Australian Bureau of Statistics (ABS), the NCCH maintains the ICD-10-AM (which comprises the Australian modification of the ICD-10 for diseases, plus the Australian Classification of Health Interventions and the Australian Coding Standards), provides support to the ABS and the AIHW in their use of the ICD-10 and ICD-10-AM for national data collections, supplies continuing education for Australian coders, develops products for supporting the work of coders and for assessment of coding quality, conducts research and has an active consultancy service for national and international clients. The HIMAA is Australia's peak body representing the interests of the health information management profession. In addition to promoting and supporting the profession, the Association delivers distance education programs in coding and related subjects. These programs are principally aimed at entry-level coders, although intermediate and advanced courses are also available. The CCSA is an organisation originally established by the HIMAA to represent the clinical coder profession. The establishment of the CCSA was one of the major outcomes of the first Australian National Coder Workforce Issues Project in the mid-1990s. The Association is also active in the provision of coder training, mainly through short courses and workshops. It also provides a support network for coders.

Australian coders identified all of the resources to which they have access in order to help them code. Most Australian coders had access to a full set of current edition coding books (94%) and to the NCCH publication *Coding Matters* (89%), while around half of all coders had access to the Code-L coding query/support list server (40%) or an encoder (42%). Interestingly, over half of all coders had access to a computer and the Internet, email, and Code-L, with less than 5% of coders not having access to any of these resources. Nearly three-quarters of Australian coders indicated that they had access to clinical staff, with one-third of these coders indicated that they accessed clinical staff via adhoc meetings with clinicians to discuss specific coding issues.

In England, the National Clinical Classifications Service of the National Health Service Information Authority, support the clinical coder workforce through the development and maintenance of clinical coding and auditing standards, training and development of support materials.

Most English coders had access to ICD-10 volumes 1 and 3 (99.6%), while only 30% of coders had access to an encoder. Coders reported whether they had access the email or the Internet, with less than three-quarters of coders having access to either of these resources. Nearly one-third of English coders indicated that they did not have access to clinical staff with whom to discuss coding questions.

US coders regularly use commercial encoder and grouper software to assign codes and group for reimbursement under DRGs and APCs. Encoders are equipped with all current ICD-9-CM and CPT-4 codes, coding guidelines and rules governing reimbursement requirements. The American Health Information Management Association has several internet-based 'Communities of Practice' for regular member/coder communications, chat rooms and discussion groups. In addition, state and regional 'Coding Roundtables' serve as meetings to discuss and share ideas for coding problem-solving. The AHIMA provides numerous resources for coders, including an audio seminar series and publications.

Coders in Australia appear to have similar access to coding resources such as coding books, encoders and technology as coders in England and America. However, more Australian coders had access to clinical staff than English coders, with nearly 75% of Australian coders having access to clinical staff compared to two-thirds of coders in England. Both Australian and English coders accessed clinical staff largely through adhoc meetings. Data was not available for America or Canada on access to clinical staff.

### **Continuing Education**

Over 90% of Australian coders stated that their facilities supported their participation in continuing education events, with the most common type of continuing education event accessed being the update workshops offered by the NCCH prior to the implementation of new editions of ICD-10-AM (65%), followed by NCCH print based materials (47%), and Health Department coding meetings (37%).

Nearly 80% of English coders stated that their facilities supported their participation in continuing education events, with the most common type of continuing education event accessed being onsite coder training (20%), followed by other workshops (19%) and other external training (17%).

Only 38% of Canadian survey respondents reported having a professional development budget. The major types of education sessions attended in rank order were ICD-10-CA/CCI training (67%), in-house education (43%), CIHI events (30%), CHIMA tele-workshops (18%), and the annual CHIMA conference (13%).

In America, coder training is offered through the AHIMA 'approved coding programs', AHIMA's 'Coding Basics' entry-level training program and the 'Computer-Assisted Training System – CATS' for advanced, web-based training. Continuing education audio seminars, textbooks, and other offerings are also available through AHIMA. Many of AHIMA's accredited colleges and universities offer local coding continuing education programs. Commercially, companies market web-based training products and coding seminars.

Respondents to the Australian, English and Canadian surveys were asked about the type of continuing education sessions that they would find most useful. Australian coders indicated that specific coding topics such as diabetes, procedures, obstetrics, orthopaedics and neoplasms/cancer would be most useful as these were seen as areas of difficulty for coders. English coders were interested in continuing education on details of anatomy, physiology, medical terminology, and new procedures, along with specific coding topics such as obstetrics, orthopaedics and neoplasms. Canadian respondents indicated that they would be most interested in specific body system coding topics and data quality topics, and many survey respondents also indicated an interest in education for computer skills development, and stress and time management.

### **Conclusions**

Some of the key findings to be identified in this paper include:

- More of a focus on the task of coding in England and the US than in Australia, with Australian coders more likely to be involved in other activities besides clinical coding.
- Higher percentage of coders with tertiary qualifications in America and a lower percentage in Canada.
- Nearly twice as many coders had no formal education beyond high school in America compared to Australia.
- American coders earn 30% more than coders in Australia and Canada, and twice as much as English coders; Australian and Canadian coders earn 30% more than English coders.

- Higher credentials and/or more experience associated with a higher salary in all four countries.
- The overall number of coding vacancies was similar in Australia, England, and Canada with around 40 current vacancies in each country, while America appeared to have more vacancies with over 90% of coders indicated there were vacancies in their regions.
- Coding throughput requirements were highest in England with over 80% of coders having targets to meet, compared to 44% of Australian coders and less than 20% of Canadians. Looking at the number of records to be coded per day, the American coders have the lowest reported throughput targets. This may reflect the different roles of coders with Australian coders having considerably more tasks to do besides coding than coders in other countries. It may also reflect the focus on complete and accurate coding for countries where coded data is used as the basis for reimbursement.
- Documentation issues were of primary concern for coding quality in all four countries. However, there was more emphasis on coders conducting quality audits in Australia than in the England or Canada and a significant emphasis on coding quality in the US because of the coding compliance requirements for reimbursement purposes.
- Coders had similar access to resources between Australia and England, though slightly more coders had access to clinical staff in Australia than England
- There was generally good support for continuing education activities across countries, with coders indicating topics of interest ranging from specific coding and clinical topics to technological skills and management skills

Despite the reported similarities and differences in the coder workforces discussed in this paper, it is important to note that the data may have been affected by the varied response rates and different workplaces of coders across the four countries. Response rates varied from around 20% to over 50% and respondents indicated that they worked in a variety of workplaces, differing across countries. This may have influenced some of the results and account for some of the variability between countries.

Overall though, this paper has described the findings of the national surveys of clinical coders conducted in Australia, America, England and Canada in recent years and has identified the similarities and differences in important aspects of the coder workforce at an international level.

## **Biography of Main Presenter**

### **Sue Walker BAppSc (MRA), GradDip(Public Health), MHLthSc**

Sue Walker is Associate Director of the National Centre for Classification in Health. As such, she is responsible for the management of staff and activities at the Brisbane site, located at the Queensland University of Technology. Under her guidance, NCCH research and development staff have developed a close network of contacts with health data coders, researchers and users with whom collaborative projects have been conducted relating to ICD-10 and ICD-10-AM codes and standards. Sue has maintained an active publication record producing over 20 papers for journals, conferences and international meetings, two monographs and a book chapter in the last five years.

Sue has qualifications in health information management, public health and health services management and has worked in public and private sector hospitals, health departments, data registries and universities. She has extensive experience in developing and presenting training programs about health classifications for both international and Australian audiences. Sue has been elected to various executive positions in both national and state branches of the Health Information Management Association of Australia, culminating in her election as national President of the Health Information Management Association of Australia in 1993-5. In 1999, Sue was awarded a HIMAA Appreciation Award for services to the profession. Sue is a member of the Health Information Management Association of Australia, the International Federation of Health Records Organisations, the Public Health Association of Australia and the Australian College of Health Service Executives. Sue is a past member of the Executive Committee of the International Federation of Health Records Organizations.

The NCCH has a collaborative arrangement with the Australian World Health Organization Collaborating Centre for the Family of International Classifications, located at the Australian Institute of Health and Welfare. Sue contributes to the work of WHO through mortality, morbidity and disability coding networks and committees and global training and credentialing activities. She has been invited to conduct numerous consultancies regarding health classification and health information management for WHO, AusAID and other philanthropic donors.

## **Biographies of Other Session Presenters**

### **Claire Dixon-Lee PhD, RHIA, FAHIMA**

Claire Dixon-Lee is Vice President for Accreditation and Education at the American Health Information Management Association, Chicago, Illinois. She is responsible for college and university relations, strategic direction of health informatics and information management academic curricula, and maintenance of policies and procedures for national and international programmatic accreditation.

Previously, Dr. Dixon-Lee was president of MC STRATEGIES, INC., Atlanta, Georgia, a coding and financial management consulting and web-based training services firm as well as having worked for several well-known clinical data applications companies.

She was an Alexander M. Schmidt Fellow at the University Healthsystems Consortium in Oakbrook, Illinois, and has over 30 years of academic experience in health information management education, most recently at the University of Illinois at Chicago, where she is still an adjunct professor in the School of Public Health – Public Health Informatics.

Dr. Dixon-Lee is a past president of AHIMA and former chair of the Joint Healthcare Information Technology Alliance (JHITA). She holds a master's degree in Epidemiology from SUNY at Buffalo, and a doctoral degree in Public Health Policy and Administration from the University of Illinois at Chicago.

### **Judith Moran Fuke**

Judy Moran Fuke is an information management specialist with many years of progressive responsibilities in the health care industry. She currently holds the position of Manager, Education and Professional Practice for the Canadian Health Information Management Association.

Judy's previous work experience includes Director, Health Records for the Royal Victoria Hospital in Barrie; Director, Health Resources Unit for the Ontario Hospital Association; Director, Admitting and Health Records for the Women's College Hospital in Toronto and Coordinator, Health Records at Hospital Computing Services of Ontario. In addition, Judy has significant experience as a health records consultant, working for various health, computer and management organisations.

Judy is a certificant of the Canadian College of Health Record Administration and is currently studying in the Administrative Studies Program at the York University in Ontario. Her work for the health information management profession in Canada was recognised by her peers through awarding of a Tribute to Excellence Award by the Canadian Health Record Association. Judy is a member of the Canadian Health Information Management Association and the Canadian Organization for the Advancement of Computers in Health. She is a former President of this latter organization and is also a Past President of the Ontario Health Record Association.

### **Gareth Dear**

Gareth works for the National Health Service Information Authority in the United Kingdom as part of the Clinical Classifications team.

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<sup>1</sup> McKenzie K and Walker S. *The Australian Coder Workforce 2002: A Report of the National Clinical Coder Survey*. Sydney: National Centre for Classification in Health Monograph Series, 2003.

<sup>2</sup> Wing P, Langelier M, Continelli T, Armstrong D. *Data for Decisions: The HIM Workforce and Workplace - 2002 Member Survey*. New York: Centre for Health Workforce Studies, 2003.

<sup>3</sup> Dear G and Bracewell L. *National Clinical Coding Survey (England) 2003: Final Report*. Hampshire: National Health Service Information Authority, 2004.

<sup>4</sup> Moran-Fuke J. *Taking Stock-Results of A CHRA/ ThiNC iMi National Survey of Health Record Professionals*. Canada: Canadian Health Information Management Association, 2003.

<sup>5</sup> MacKenzie S. "Coders today: Where they work, what they earn: Workforce study finds credentials influence setting, salary". *Journal of the American Health Information Management Association*, 74, 7 (2003): 20-27.

<sup>6</sup> Australian Institute of Health and Welfare (AIHW). *Australian Hospital Statistics 2001-2002*. Canberra: AIHW, 2003.

<sup>7</sup> Hall MJ, DeFrances CJ. *National Hospital Discharge Survey. Advance data from vital and health statistics; no 332*. Hyattsville, Maryland: National Centre for Health Statistics, 2001.

<sup>8</sup> Available at [www.dh.gov.uk](http://www.dh.gov.uk).

<sup>9</sup> Available at [www.qstat.cihi.ca](http://www.qstat.cihi.ca).

<sup>10</sup> Available at [http://siteresources.worldbank.org/ICPINT/Resources/Table5\\_7.pdf](http://siteresources.worldbank.org/ICPINT/Resources/Table5_7.pdf)

<sup>11</sup> AHA Commission on Workforce for Hospitals and Health Systems *In Our Hands: How Hospitals Leaders Can Build A Thriving Workforce*. Chicago: American Hospital Association, 2002.

<sup>12</sup> Dunn RT & Mainord C. "The Latest Look at Coding Trends". *Journal of the American Health Information Management Association*, 72, 7 (2001): 94-96.

<sup>13</sup> Dixon-Lee C. "Hospital Administrative Database Coding Practices May Affect Clinical and Outcomes Studies", *University Healthsystems Consortium*, 2, 7 (1994).